

IN THE CLAIMS

Please amend the claims as follows:

Claim 1-6 (Canceled)

Claim 7 (Original) A method of manufacturing a semiconductor device, comprising:
forming a trench in an SOI substrate, the trench extending from a major surface of
the SOI substrate and passing through a buried insulating film;
forming a first insulating film in the trench, a first insulating film with a depth to
reach an upper surface of the buried insulating film;
forming a second insulating film in a sidewall portion of the trench above the first
insulating film, the second insulating film made of a material different from that of the first
insulating film;
etching back the first insulating film to such a depth as to reach an upper surface of
the buried insulating film, using the second insulating film as a mask, and recessing the
buried insulating film exposed to the sidewall portion of the trench;
forming a semiconductor layer by epitaxial growth in a gap created by the recessed
buried insulating film; and
removing the first insulating film and the second insulating film and forming a trench
capacitor in the trench.

Claim 8 (Original) A method according to claim 7, further comprising forming a first
transistor in the SOI substrate, wherein the first transistor and the trench capacitor form a
DRAM memory cell.

Claim 9 (Original) A method according to claim 7, further comprising forming a second transistor in the SOI substrate, wherein the second transistor forms a logic circuit.

Claim 10 (Original) A method according to claim 8, further comprising forming a second transistor in the SOI substrate, wherein the second transistor forms a logic circuit.

Claim 11 (Original) A method according to claim 10, wherein at least a part of a manufacturing process of the transistor forming the DRAM memory cell is common to that of the transistor forming the logic circuit.

Claim 12 (Original) A method according to claim 7, wherein the SOI substrate is formed by bonding oxide film sides of two semiconductor substrates each having the oxide film on one surface thereof.

Claim 13 (Original) A method of manufacturing a semiconductor device, comprising:

forming a trench in an SOI substrate, the trench extending from a major surface of the SOI substrate and passing through a buried insulating film;

forming a first insulating film in the trench, the first insulating film with a depth to reach an upper surface of the buried insulating film;

forming a second insulating film in a sidewall portion of the trench above the first insulating film, the second insulating film made of a material different from that of the first insulating film;

etching back the first insulating film to such a depth as to reach an upper surface of the buried insulating film, using the second insulating film as a mask, and recessing the buried insulating film exposed to the sidewall portion of the trench;

depositing a polysilicon layer on a major surface of the SOI substrate and in the trench;

etching back the polysilicon layer by performing anisotropy etching to cause the polysilicon layer to remain in a gap created by the recessed buried insulating film in the trench; and

removing the first insulating film and a second insulating film and forming a trench capacitor in the trench.

Claim 14 (Original) A method according to claim 13, further comprising forming a first transistor in the SOI substrate, wherein the first transistor and the trench capacitor form a DRAM memory cell.

Claim 15 (Original) A method according to claim 13, further comprising forming a second transistor in the SOI substrate, wherein the second transistor forms a logic circuit.

Claim 16 (Original) A method according to claim 14, further comprising forming a second transistor in the SOI substrate, wherein the second transistor forms a logic circuit.

Claim 17 (Original) A method according to claim 16, wherein at least a part of a manufacturing process of the transistor forming the DRAM memory cell is common to that of the transistor forming the logic circuit.

Claim 18 (Original) A method according to claim 13, wherein the SOI substrate is formed by bonding oxide film sides of two semiconductor substrates each having the oxide film on one surface thereof.